



— BUREAU OF —
RECLAMATION

Colorado River Basin

Overview of Yuma Area Water Operations and Salinity Management

IBWC Colorado River Citizens Forum

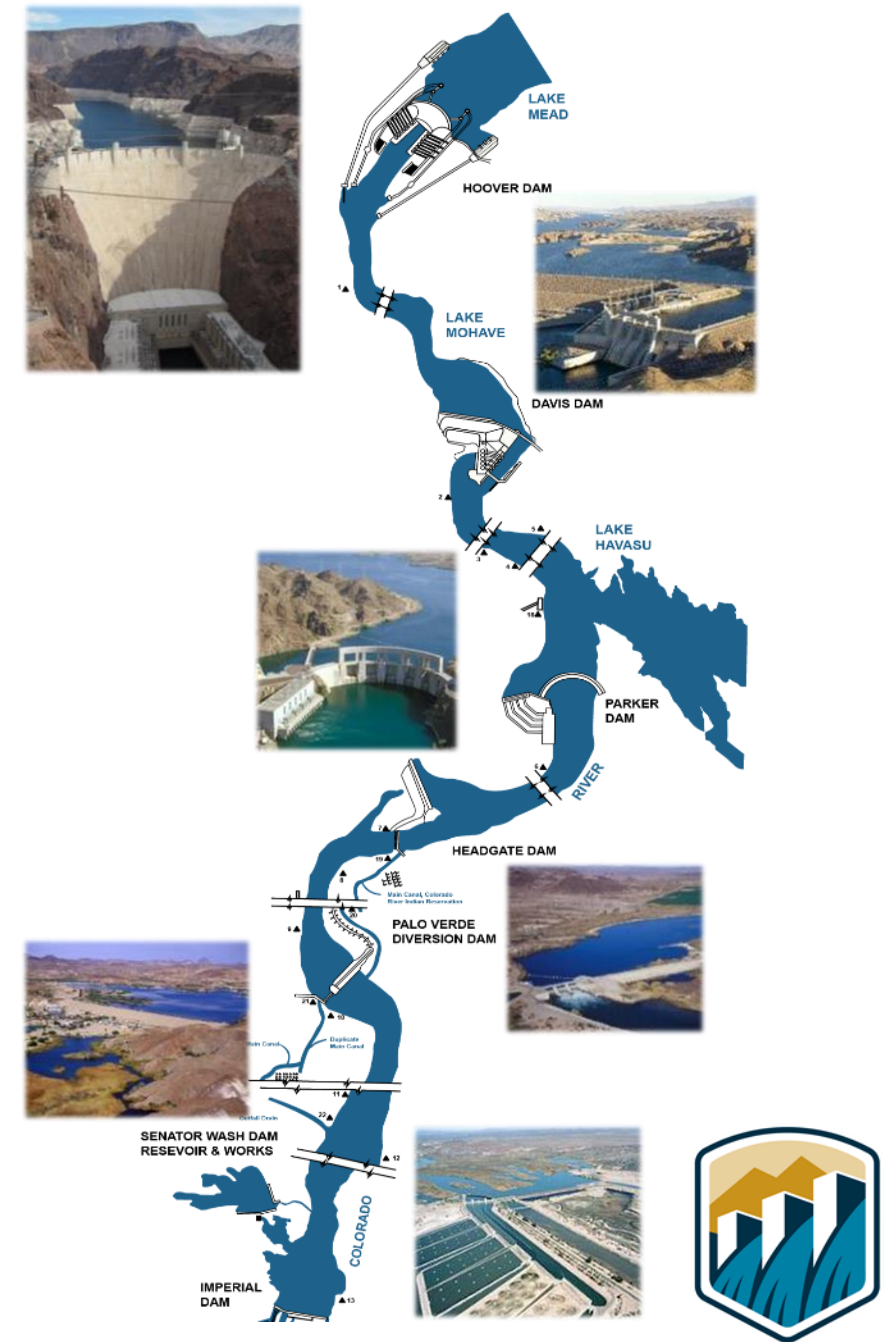
May 19, 2021

Interior Region 8: Lower Colorado Basin



Lower Colorado River Operational Objectives

- Boulder Canyon Project Act of 1928
 - Established the Secretary of the Interior as Water Master of the Lower Colorado River
 - Authorized the construction of Hoover Dam
 - Provide flood control and river regulation
 - Deliver water to meet irrigation and domestic uses
 - Generate hydropower
- 1944 U.S.-Mexico Water Treaty
 - Meet water delivery and salinity requirements under the Treaty and Minutes



Overview of Yuma Area Operations and Salinity Management

Yuma Area Water Operations Overview

- Delivery of Colorado River Water
 - Parker Dam → Imperial Dam → International Border
 - Parker Dam releases approximately 6.5 million acre-feet (maf) annually (~70 % of Lake Mead's average annual release)
 - Customers in California, Arizona, and Mexico
- Primary Goals
 - Satisfy water orders while meeting salinity requirements
 - Minimize excess flows to Mexico to conserve system water
 - Maximize groundwater production within salinity limits





Overview of IBWC Minute 242

- Background
- Key Provisions
 - Of the approximately 1,360,000 acre-feet delivered to Mexico upstream of Morelos Dam, the average annual salinity will not be more than 115 ppm +/- 30 parts per million (ppm) over the annual average salinity (by the U.S. count) of Colorado River waters arriving at Imperial Dam
 - The U.S. may deliver up to 140,000 acre-feet to Mexico at the land boundary at San Luis, Mexico as part of the 1.5 maf Treaty delivery with a salinity essentially the same as that of the waters customarily delivered there (approximately 1200 to 1800 ppm)
 - Allows for up to a specified volume of groundwater pumping in both countries within 5 miles (8 kms) of the land boundary at San Luis

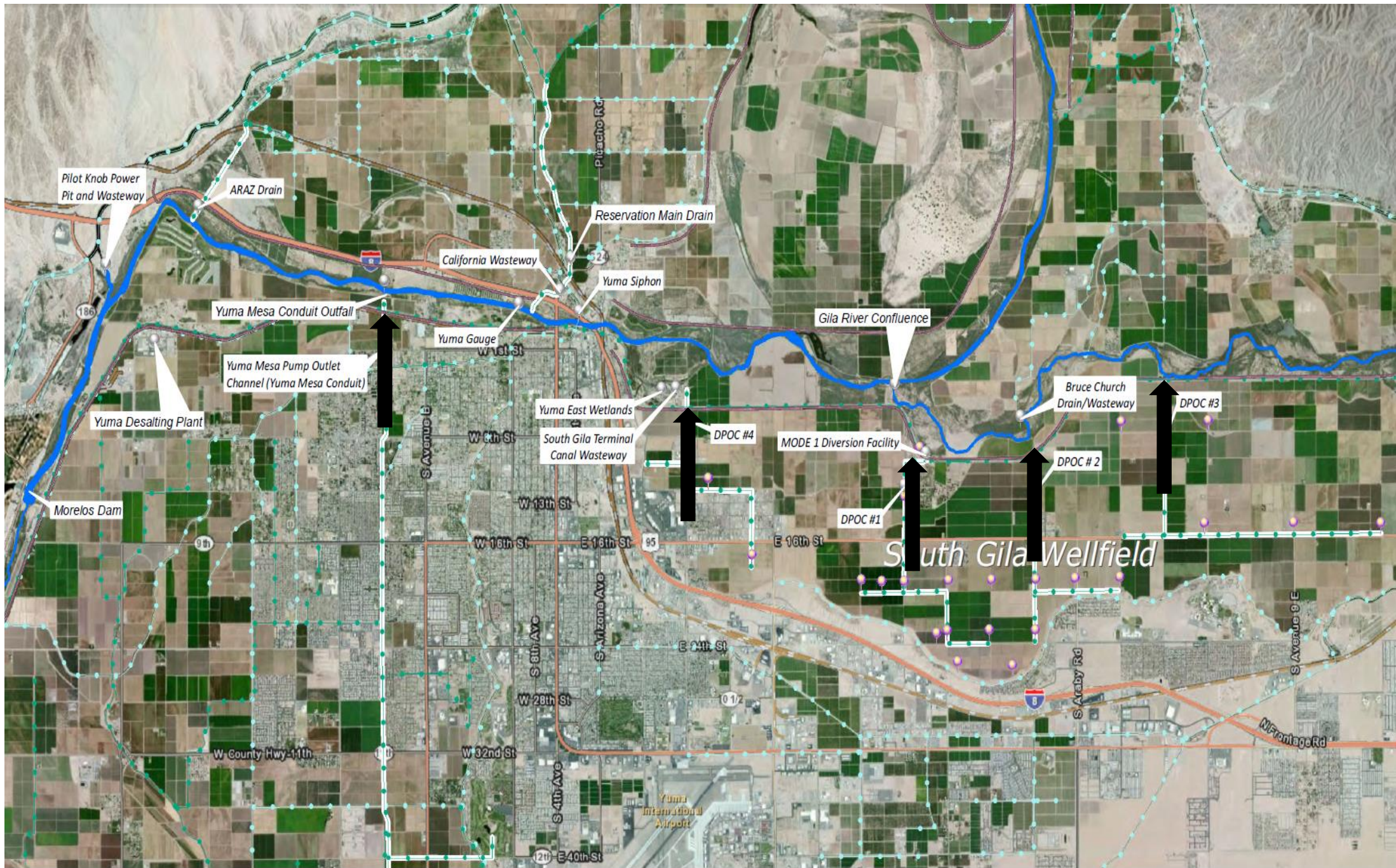


Deliveries to Mexico and Coordination with IBWC



Deliveries to Mexico and Coordination with IBWC

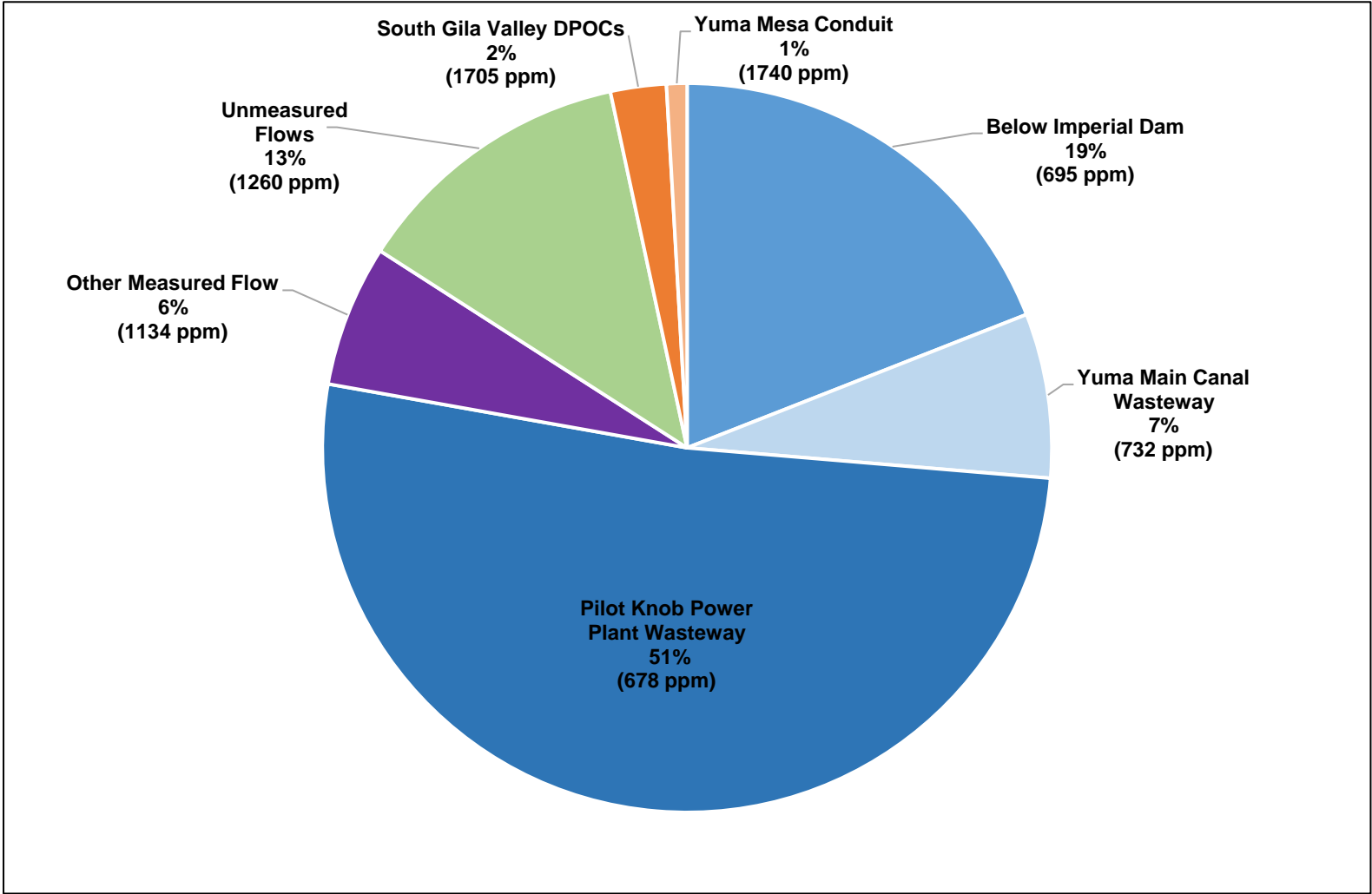




"DPOC" refers to the Drain Pump Outlet Channel (DPOC) drainage system and pumping wells



Estimated Flows Arriving at the NIB Based on Calendar Year 2018 Volumes



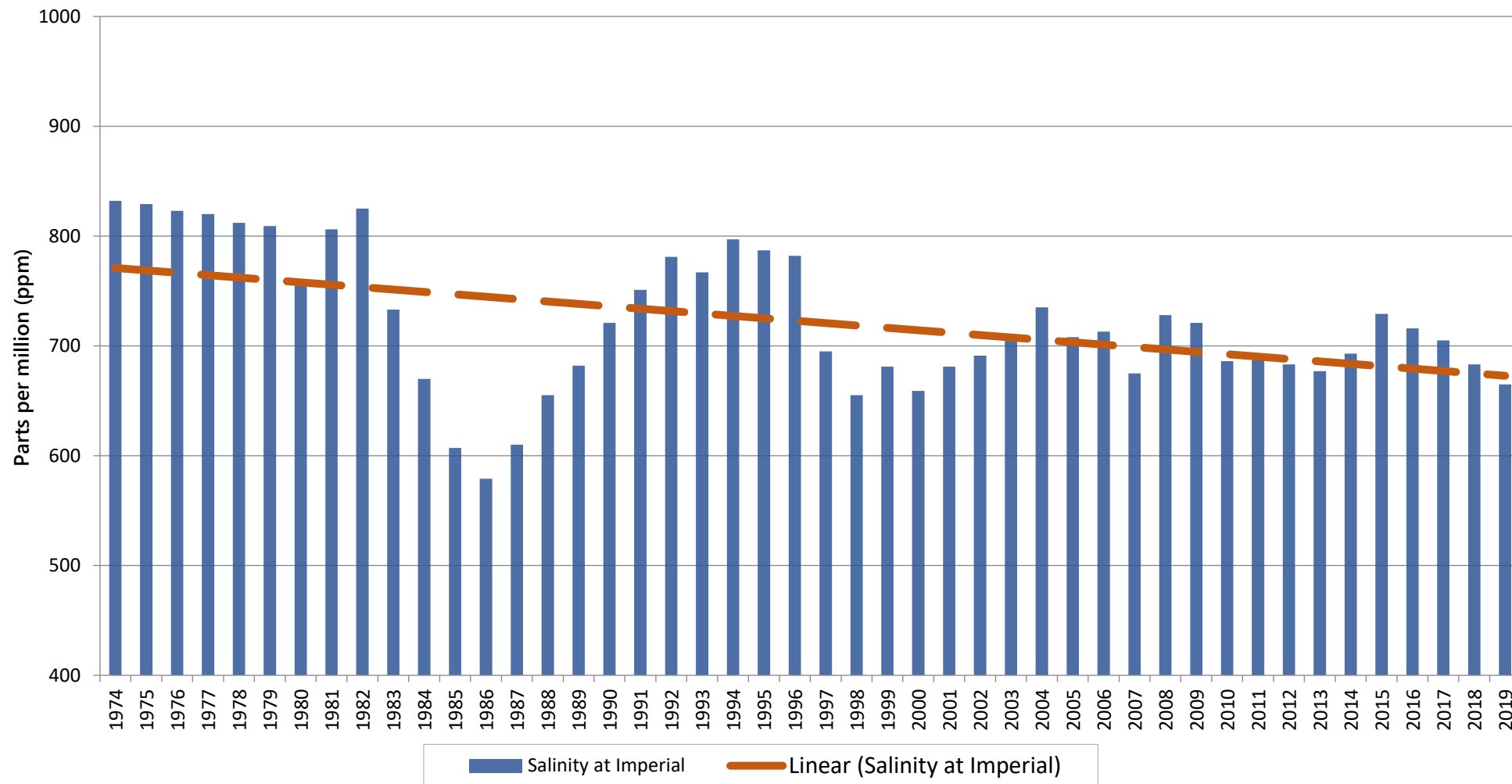
In 2018, pumped groundwater was approximately 3% of total volume delivered to Mexico at the NIB

- South Gila Valley DPOCs – 2%
- Yuma Mesa Conduit – 1%



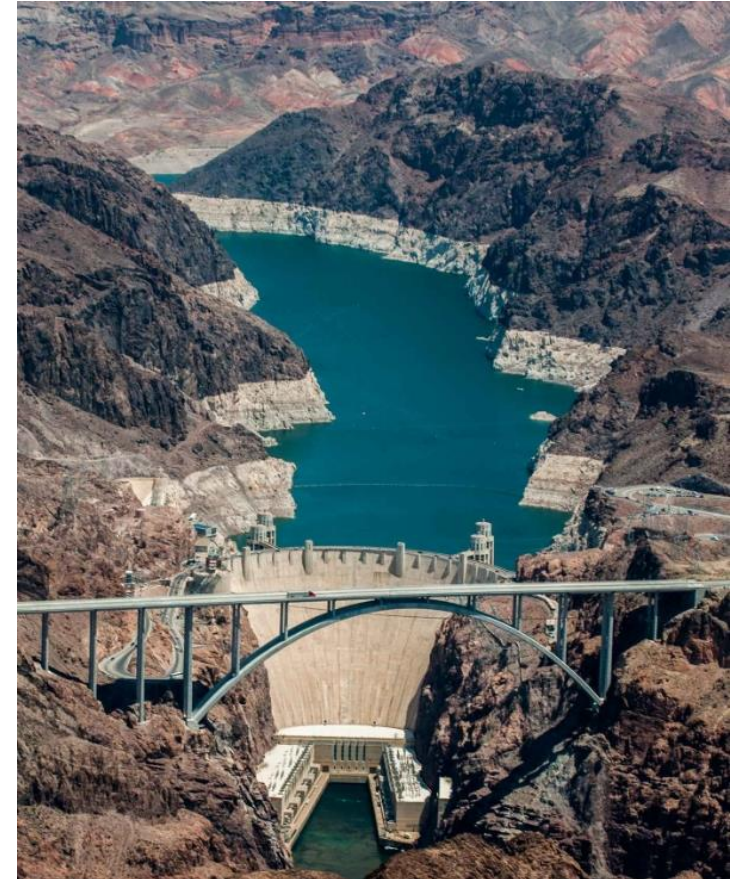
Colorado River Salinity from 1974 through 2019

Annual Salinity of Water Arriving at Imperial Dam



Challenges

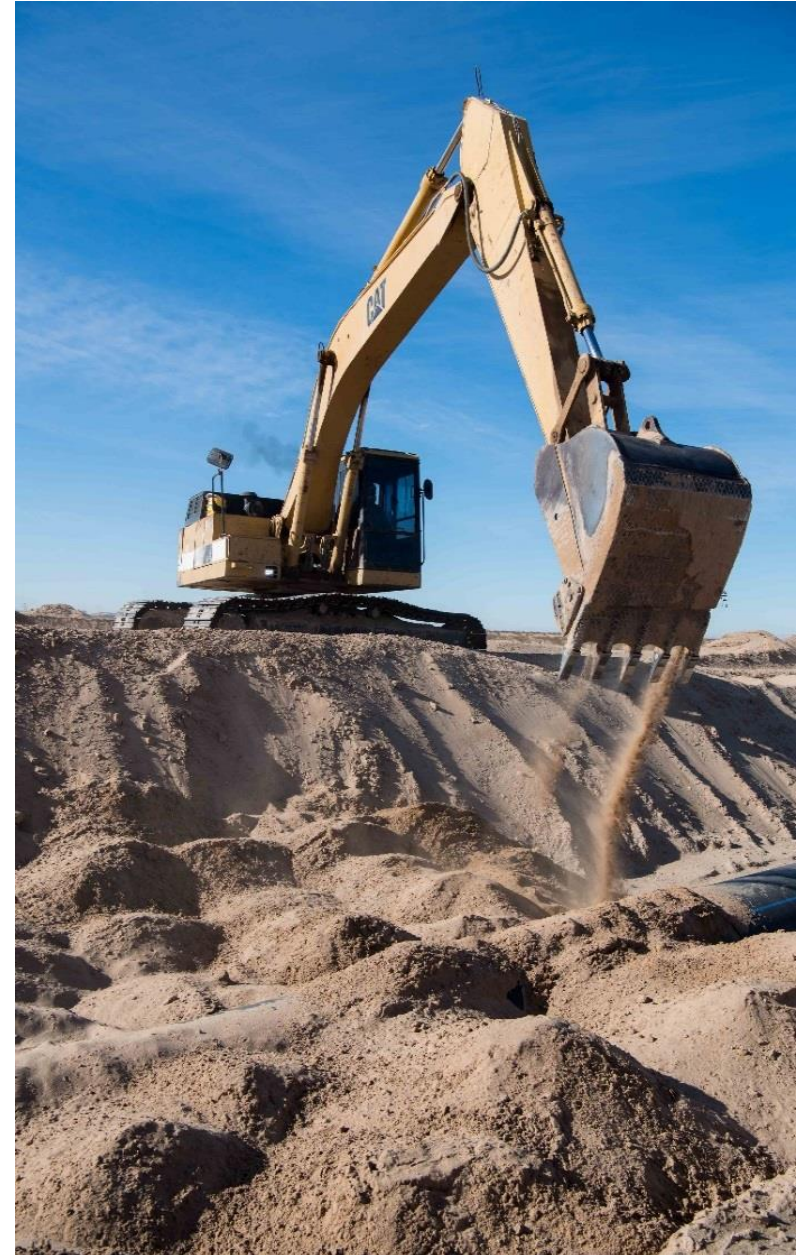
- Decreasing salinity of water arriving at Imperial Dam and reduced river flows makes it challenging to meet the salinity differential
- The likelihood of further reduced flows under shortage and low elevation reservoir conditions in the future will make it even more challenging
- Managed groundwater is only a small percentage of the total volume of water delivered at NIB and operational options are limited
- Continued coordination and better understanding of the salt load budget below Imperial Dam is crucial



242 Wellfield Expansion Project

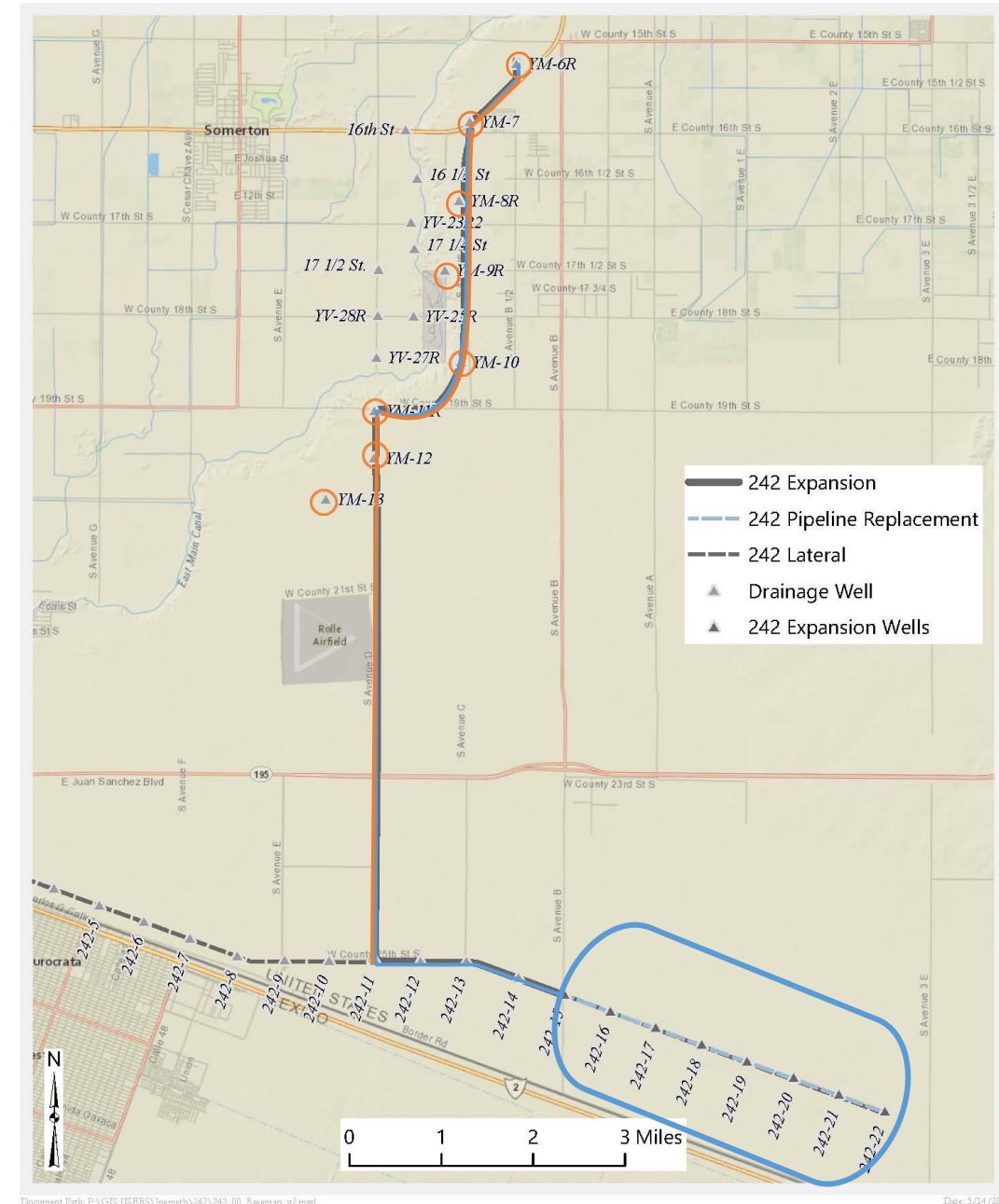
242 Wellfield Expansion Project Overview

- The project began in 2016
- Two components/pipelines:
 - 242 Wellfield Expansion
 - Yuma Mesa Conduit Extension



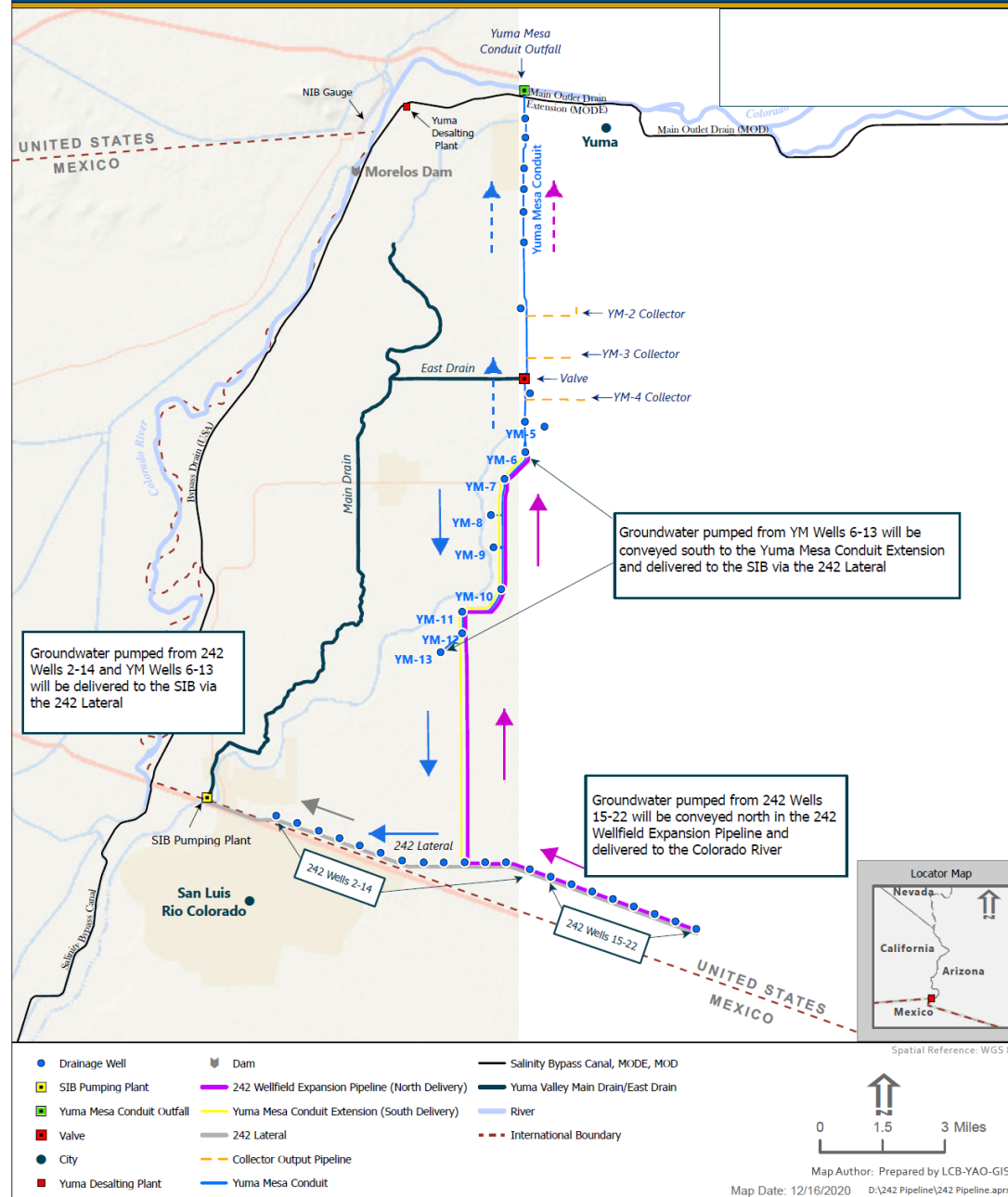
242 Wellfield Expansion Project Status

- The 242 Wellfield Expansion component began operational testing in December 2020
 - Create up to 32,000 AF of system water each year to help meet Federal DCP efforts
- The Yuma Mesa Conduit (YMC) Extension component is under construction and anticipated to be completed in Fall 2021





242 Wellfield Expansion: Post-Project Configuration of 242 Wellfield/Lateral and Yuma Mesa Conduit Extension



For further information, please visit:

<https://www.usbr.gov/lc/riverops.html>

https://www.usbr.gov/lc/yuma/facilities/yao_wellfields_map.html



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